GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:589
ANSWERED ON:20.07.2016
Conversion of Sea Water into Potable Water
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Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether the sea water can be converted into drinking water by using nuclear/atomic energy;

(b) if so, the details of the quantity of drinking water generated by these projects including established projects for the purpose;

(c) the cost of converting sea water into drinking water by using nuclear/atomic energy; and

(d)whether the Government contemplates to establish such projects in the country during the current financial year and if so, the details of allocated funds for such projects?

Answer

THE MINISTER OF STATE FOR, PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND PRIME MINISTER''S OFFICE (DR. JITENDRA SINGH):

(a)Yes, Sir.

(b)Desalination of seawater is possible by using Thermal Desalination Technology and/or Membrane Technology like Reverse Osmosis (RO). Thermal and/or Electrical energy from Atomic Power Station or Nuclear Research Reactor/s can be used for this purpose. A seawater desalination plant setup as part of Nuclear Desalination Demonstration Project (NDDP) at Kalpakkam, Tamil Nadu produces 45 lakh litres of water per day by Thermal Desalination process, drawing nuclear low pressure steam from the operating Madras Atomic Power Station (MAPS) and 18 lakh litres of water per day using membrane based technology using electrical energy from MAPS grid. The plant is the largest operating hybrid nuclear desalination plant in the world. The plant produces dual quality of water; water for high-end industrial applications of quality less than 10 mg per litre of TDS (Total Dissolved Solids) and potable water of less than 500 mg per litre of TDS for drinking and other applications.

(c)The sea water desalination plant set up at Kalpakkam is a demonstration plant. The cost of water produced depends upon many factors like cost of electricity, quality of required end product, choice of technologies, seawater quality, local infrastructure and logistics etc. On an average, the cost of conversion of seawater into desalinated water is about 10 paise per litre of water produced.

(d)No, Sir. At present, there is no proposal before the Government to set up a sea water Desalination plant using Atomic Energy.

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